

Remarks

I. Status of the Application and Claims

As originally filed, the present application had a total of 28 claims. These have all now been cancelled and new claims 29 - 61 have been introduced.

II. The Amendments

Page 12 of the specification was amended to add deposit dates. This was done in compliance with the suggestion of the Examiner appearing on the fourth page of the Office Action. The exact changes made are shown in the appendix attached hereto.

New claims 29 - 61 have been introduced herein. Claim 61 is a product by process claim directed to the microorganisms that are produced by the procedure set forth in claim 29. Support for this claim may be found throughout the application. Support for the remaining claims may be found in the portions of the application set forth in table 1.

Table 1: Support for New Claims

New Claim Number	Support in Application
Claims 29-32	Original claims 1-3
Claim 33	Original claim 4
Claim 34	Original claim 5
Claims 35 and 36	Original claims 6 and 7
Claims 37 and 38	Original claim 7
Claim 39	Page 9, line 23 – page 10, line 6
Claim 40	Page 4, line 21 – page 5, line 18; Examples 14 – 17, page 12, line 3 – page 42, line 3 – page 50, end.
Claim 41	Original claim 14
Claim 42	Original claim 15
Claim 43	Original claim 16
Claim 44	Original claim 9
Claim 45	Original claim 10
Claim 46	Original claim 11
Claim 47	Original claim 12

Claim 48	Page 4, lines 3 – 6
Claims 49 and 50	Page 4, lines 6 – 7
Claims 51 and 53	Original claim 13
Claim 52	Examples 12 and 13, page 38, line 17 – page 40, line 16
Claim 54	Example 14, page 42, line 4 – page 44, line 20
Claim 55	Original claims 10 and 11
Claim 56	Original claim 18
Claim 57	Original claim 19
Claim 58	Original claim 20
Claim 59	Page 12, line 13
Claim 60	Original claim 22

None of the amendments described above and add new matter to the application and their entry is therefore respectfully requested.

III. Supplemental Declaration

On the second page of the Office Action, the Examiner indicates that the Declaration submitted by Applicants is defective because one of the inventors has crossed out some information without having initialed it. Applicants have sent a supplemental declaration to the inventors for execution and will submit this to the Patent Office as soon as it is received.

IV. Compliance with Sequence Listing Rules

The Examiner indicates that Applicants have failed to comply with a variety of sequence listing rules and have failed to submit both a paper copy of the sequence listing and a copy in computer readable form. In response, Applicants have prepared a separate amendment to introduce sequence identification numbers into the application and are enclosing this amendment herewith. In addition, Applicants are submitting both a paper copy of the Sequence Listing and a diskette containing the Sequence Listing in computer readable form. Applicants believe that they have now fully complied with all of the rules applying to sequence listings.

The Rejections

I. Rejection of Claims Under 35 U.S.C. § 112, First Paragraph

The Examiner rejects claims 18 – 20 based upon the allegation as the claims include plasmid vectors that have been deposited under the Budapest Treaty but Applicants have not fully complied with all of the deposit requirements. Specifically, Applicants have allegedly failed to supply a deposit date and to make necessary statements concerning the accessibility of the deposit upon the issuance of a patent. Deposit dates have been added to the specification as described above. Applicants' undersigned attorney hereby states that all restrictions on the accessibility of the deposited material will be irrevocably removed upon the issuance of a patent and that the deposited material will then be available to the public without restriction or condition.

II. Rejection of Claims Under 35 U.S.C. § 112, Second Paragraph

The Examiner makes several rejections under the second paragraph of 35 U.S.C. § 112. Below, Applicants respond to each allegation.

A. Allegation 1

The Examiner alleges that claims 1 and 4 – 20 are indefinite because they lack an article (A or The) at the beginning of the claim. This defect has been corrected in all of the new claims submitted herewith. Thus, Applicants believe that the Examiner's rejection has been obviated.

B. Allegation 2

The Examiner alleges that claim 1 is indefinite due to the phrase "by amplification of nucleotide sequences which code ketopantoate reductase individually or in combination with one another, and optionally additionally of the *ilvC* gene." Since this language is no longer present in claims Applicants believe that the Examiner's rejection has been obviated. To the extent that the claims refer to genes that have been amplified, Applicants believe that it should be apparent that it is the entire gene, and not any particular sequence within the gene that is amplified. Amplification can be accomplished in several different ways but ultimately the full, functional gene product must be produced in order to obtain a microorganism with an improved capacity for pantothenic acid synthesis.

C. Allegation 3

Claims 7 and 8 are rejected as being indefinite due to the presence of the term “and/or.” In addition, claim 7 is alleged to be indefinite because it is unclear whether the term “one or more” modifies the term “antimetabolite resistance.” This is apparently also due to the presence of the term “and/or.” In response, Applicants have amended claims 37 and 38 (corresponding to original claim 7) to omit the “and/or” terminology. It is therefore believed that the Examiner’s rejection has been overcome.

D. Allegation 4

Claim 8 is rejected because it allegedly recites a broad range limitation as well as a narrower range limitation. Since claim 8 has been cancelled and no comparable claim has been introduced, Applicants submit that the Examiner’s rejection has been obviated.

E. Allegation 5

Claim 14 is rejected based upon the allegation that it refers to a phrase: “sequences which code for ketopantoate reductase,” and that has no antecedent basis. New claim 41 (which corresponds to original claim 14) no longer has the phrase objected to by the Examiner. It is therefore submitted that this basis for rejection has been overcome.

F. Allegation 6

Claim 15 is rejected based upon the allegation that the phrase “wherein compatible plasmid vectors which contain the genes are employed” is unclear. Applicants believe that the Examiner is actually referring to claim 16 as originally filed. The corresponding newly entered claim (claim 43) now specifies that microorganisms are transformed with the plasmid vectors. Applicants believe that this should be sufficient to overcome the Examiner’s rejection.

G. Allegation 7

Claim 17 is rejected based upon the allegation that the phrase “one or more plasmid vector(s) compatible with one another is employed” is unclear. The Examiner argues that it is unclear exactly how the vectors are to be “employed” and that there is no clear antecedent basis for the term “the genes mentioned.” The Examiner also objects to the use of the phrase

“the genes being arranged in succession and placed under the control of a common promoter or arranged separately from one another under the control of various promoters.” Since claim 17 has been cancelled and no corresponding claim has been introduced, Applicants believe that the Examiner’s rejection has been obviated.

Conclusion

In light of the amendments and discussion above, Applicants submit that all of the Examiner’s rejections have been overcome. It is therefore respectfully requested that these rejections be withdrawn and that the claims presently pending in the application be allowed.

If, in the opinion of the Examiner, a phone call may help to expedite the prosecution of this application, the Examiner is invited to call Applicants’ undersigned attorney at (703) 905-2173.

Respectfully submitted,

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Appendix

Version with Markings to Show Changes Made

Page 12 of the specification was amended to add deposit dates. The changes made are shown below with the underlined words indicating text that was added.

The following microorganisms have been deposited at the Deutsche Sammlung für Mikroorganismen und Zellkulturen (DSMZ=German Collection of Microorganisms and Cell Cultures, Braunschweig, Germany) in accordance with the Budapest Treaty:

- Escherichia coli K12 strain FE5 as DSM12378 on August 18, 1998
- Escherichia coli K12 strain MG1655/pFE32 as DSM12413 on September 16, 1998
- Escherichia coli K12 strain MG1655/FE65 as DSM12382 on August 18, 1998
- Escherichia coli K12 strain MG1655/FE80 as DSM12414 on September 16, 1998
- Escherichia coli K12 strain FE6 as DSM12379 on August 18, 1998
- Escherichia coli K12 strain FE7 as DSM12380 on August 18, 1998